Amberg Slab Track GRP 1000 with Topcon accuracy

Survey-grade precision with maximum efficiency

The Amberg Slab Track GRP 1000 system provides precise control for slab track installation and adjustment. A fully integrated workflow links real-time field measurement with dedicated slab track reporting in the office. Proven on major high-speed projects, including extensive use across China's high-speed network, it delivers actionable correction values for on-site adjustment and dependable compliance with design.

Hardware Configurations

- **GRP 1000:** Total Station + Prism on Trolley. Total station on tripod, resected to control. Tracks prism on trolley for absolute 3D position, combined with trolley sensor data: gauge, cant, and odometer.

Note: For fast slab track acceptance workflows, refer to the Amberg Slab Track IMS 1000 / 3000 datasheet.

Slab Track Adjustment Workflow

- **Setup & Positioning:** Total station resected into control points, tracking prism on trolley.
- **Real-Time Guidance:** Immediate display of horizontal, vertical, gauge, and cant deviations against design.
- **Rough to Fine Adjustment:** Intuitive on-screen feedback supports fast rough positioning and precise fine adjustment of slabs.
- **Correction Output:** Generate tabular values for adjustment plates/shims to bring slab track into tolerance.

Amberg Rail Software – Slab Track Module

- Integrated field and office workflow for slab track adjustment
- Real-time deviation display with intuitive, sleeper-based feedback
- Automatic error compensation for smooth tie-ins
- Correction plate/shim values generated per sleeper for direct application
- Dedicated slab track reporting tools in Amberg Rail support both adjustment and acceptance workflows

Learn more at **topconpositioning.com** or **ambergtechnologies.com**

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System [1] [2]

	GRP 1000
Gauge [mm]	1000, 1067, 1220, 1372, 1435, 1495, 1520/1524, 1600, 1668/1676
Weight [kg] (re 1435 mm gauge)	27
Gauge measurement	
Range [mm] (re nominal gauges)	-25 to +65
Accuracy [mm]	±0.3
Cant measurement	
Range [mm] (re 1435 mm gauge, range ±10°)	±260
Accuracy [mm]	±0.5
Track position measurement	
Track position accuracy [mm] (single measurement mode)	±1
Track position accuracy [mm] (tracking mode)	±3
Trolley battery	
Type	Amberg GBS 1010 Li-Ion, rechargeable
Operating time [h]	>8
Field computer battery	
Type	Panasonic FZ-G2 compatible
Operating time [h]	>4
Environmental specifications	
Working temperature range [°C]	-10 to +50
Humidity [%] (non-condensing)	<80

Performance on track [1]

	GRP 1000
Typical track adjustment productivity [m/day]	>400
Typical track documentation and acceptance productivity [m/h]	>100

Topcon Positioning sensors & accessories

Total station	GT-1501/1201, MS05 AXII
Prism	Prism-2, ATP1

Slab track operations

Typical track applications	High-speed lines, light rail, metro/ urban lines, tunnel refurbishment projects, industrial tracks
Slab track installation	Compatible with construction methods such as Rheda 2000, Iron-Horse, and others
Tunout installation	Suitable for turnout systems, including solutions with structural gauge enlargement (e.g. FAKOP®). Compatible with systems from BWG, Cogifer, and others
Documentation & acceptance	Supports acceptance and documentation of common slab track systems, including Bögl System, J-Slab, Rheda 2000, Iron-Horse, Züblin, and more

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Slab track operations
CE Conformity
EN 61326-1:2013, EN 61000-6-2:2005, EN 61000-6-4:2007/A1:2011, EN 60825-1:2014, EN 13848-4, EN 13977:2011, Directives 2014/30/EU, Directives 2014/35/EU, Directives 2011/65/EU
GRP System FX approvals from
Network Rail / London Underground (UK), Deutsche Bahn (DE), SBB (CH), SNCF (FR), ÖBB (AT), RFI (IT), Adif (ES), ProRail (NL), Infrabel (BE)

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1. Typical performance may vary depending on project conditions.
2. Results depend on factors such as control point density, control point quality, and overall project conditions

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